In the claims:

Following is a complete set of claims as amended with this Response.

1. (Currently Amended) A method comprising:

receiving information in the form of a data signal for transmission to a receiver;

storing the information in a memory;

splitting the data signal into a plurality of sub-carriers to at least partially redundantly transmit the information over a multi-carrier wireless communication channel using a splitter module;

splitting each of the sub-carriers into N signals one for each of a plurality of antenna paths, wherein each of the sub-carriers is to be transmitted over an array of N antennas using a different antenna path for each signal using a second splitter module; and

modifying each of the sub-carriers by a set of complex weights, the sets of complex weights having a complex weight for each antenna path, to ensure that each of the N signals of each sub-carrier of the wireless communication channel propagates along a different physical path to the receiver, wherein the set of complex weights used to modify each of the sub-carriers includes different weights for each antenna path of the array,

wherein the modifying is performed by control logic coupled to the memory, operable to access and process at least a subset of the information to implement diversity transmission.

2. (Previously Presented) A method according to claim 1, wherein each element of the set of complex weights scales one or more of a sub-carrier's amplitude and phase at an associated transmission antenna.

3. (Previously Presented) A method according to claim 1, further comprising developing a set of complex weights including:

choosing substantially different weights for each sub-carrier sharing information; and

iteratively repeating until all sub-carriers have been modified.

4. (Original) A method according to claim 3, wherein the substantially different weights are chosen to be orthogonal to the others.

5. (Original) A method according to claim 3, wherein developing a set of complex weights comprises:

selecting weight vector(s) to be applied to each of the sub-carriers from a pre-determined set of weight vectors.

6. (Previously Presented) A method according to claim 1, further comprising:

transmitting the modified sub-carriers.

7. (Currently Amended) A transceiver comprising:

a splitter module, operable to receive a data signal for transmission to a receiver, to split the data signal into a plurality of sub-carriers to at least partially redundantly transmit the information over a multi-carrier wireless communication channel and to split each of the sub-carriers into N signals one for each of a plurality of antenna paths, wherein each of the sub-carriers is to be transmitted over an array of N antennas using a different antenna path for each signal;

a diversity agent, operable to selectively apply a set of complex weight values to each of the sub-carriers, the sets of complex weights having a complex weight for each antenna path, to introduce spatial diversity between such sub-carriers;

a memory operable to store content;

control logic, coupled to the memory, operable to access and process at least a subset of the content to implement the diversity agent; and

a transmit module, coupled with the diversity agent, operable to receive the modified sub-carriers and transmit the signals to generate the multi-carrier communication channel with intra-channel spatial diversity, wherein each of the set of complex weight values include a plurality of weight values each associated with a different one of a plurality of antenna paths of an antenna array through which the sub-carriers are transmitted.

8. (Previously Presented) A transceiver according to claim 7, wherein the plurality of signals are baseband signals.

9. (Original) A transceiver according to claim 7, wherein the multi-carrier communication channel is comprised of a plurality of sub-carrier signals, each having a disparate set of complex weights introduced at a baseband of the sub-carriers to effect the spatial diversity between the sub-carriers.

10. (Cancelled)

11. (Previously Presented) A transceiver according to claim 7, wherein the transceiver is operable to develop the set of complex weight values for a given baseband signal to be maximally orthogonal complex weight values applied to another baseband signal.

12. (Previously Presented) A transceiver according to claim 7, wherein the transceiver is operable to develop a set of complex weight vectors for a sub-carrier that are substantially different from weight vectors modifying other sub-carriers that include at least a subset of information carried by the sub-carrier.

13. (Previously Presented) A transceiver according to claim 7, wherein the transmit module is operable to upconvert and amplify each of the modified baseband signals to generate a plurality of spatially diverse sub-carriers.

14. (Previously Presented) A transceiver according to claim 13, wherein the transmit module is operable to transmit each of the sub-carriers to one or more receiver(s).

15. (Canceled)

16. (Previously Presented) The method of claim 1, wherein the multi-carrier wireless communication channel uses Orthogonal Frequency Division Multiplexing (OFDM).

17. (Previously Presented) The transceiver of claim 7, wherein the multi-carrier communication channel uses Orthogonal Frequency Division Multiplexing (OFDM).

18. (Previously Presented) The transceiver of claim 7, wherein the transceiver is selected from a basestation and a wireless telephony subscriber unit.

19. (Previously Presented) The transceiver of claim 7, wherein the transceiver develops the set of complex weights to have inter-channel spatial diversity with respect to at least one communication channel of at least one other transceiver.

20. (Currently Amended) A subscriber unit comprising:

a splitter module, operable to receive a data signal for transmission to a receiver, to split the data signal into a plurality of sub-carriers to at least partially redundantly transmit the information over a multi-carrier wireless communication channel and to split each of the sub-carriers into N signals one for each of a plurality of antenna paths, wherein each of the sub-carriers is to be transmitted over an array of N antennas using a different antenna path for each signal;

a diversity agent, operable to selectively apply a vector of complex weight values to each of the plurality of sub-carriers to introduce spatial diversity between such sub-carriers, wherein the vectors of complex weight values applied to each signal includes a plurality of different complex weight values, and wherein each of the different complex weight values is operable to modify both an amplitude and a phase of a respective signal;

a memory operable to store content;

control logic, coupled to the memory, operable to access and process at least a subset of the content to implement the diversity agent; and

a transmit module, coupled with the diversity agent, operable to receive the modified sub-carriers and transmit the signals through the antenna paths to generate the multi-carrier communication channel with intra-channel spatial diversity.

21. (Previously Presented) A transceiver according to claim 7, wherein each of the set of complex weight values are comprised of a plurality of weight values each associated with one of a plurality of antennae of an antenna array through which the sub-carriers are transmitted.

22. (Currently Amended) A device comprising:

a splitter module, operable to receive a data signal for transmission to a receiver, to split the data signal into a plurality of sub-carriers to at least partially redundantly transmit the information over a multi-carrier wireless communication channel and to split each of the sub-carriers into N signals one for each of a plurality of antenna paths, wherein each of the sub-carriers is to be transmitted over an array of N antennas using a different antenna path for each signal;

a diversity agent, operable to selectively apply a vector of complex weight values to each of the plurality of sub-carriers to introduce spatial diversity between such sub-carriers, wherein the vector of complex weight values applied to each signal includes a plurality of different complex weight values, and wherein each of the different complex weight values is operable to modify both an amplitude and a phase of a respective signal;

a memory operable to store content;

control logic, coupled to the memory, operable to access and process at least a subset of the content to implement the diversity agent; and

a transmit module, coupled with the diversity agent, operable to receive the modified sub-carriers and transmit the signals through the antenna paths to generate the multi-carrier communication channel with intra-channel spatial diversity.